

Remarks

Claims 21-37 are now pending in this application. Applicants have cancelled claims 1-20 and presented new claims 21-37. Applicants respectfully request favourable reconsideration of this case.

The Examiner rejected claims 1-3, 5, 8, and 12-16 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 4,976,582 to Clavel in view of U.S. patent 2,733,085 to Latzen. The Examiner rejected claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Clavel in view of Latzen and further in view of U.S. patent 4,430,016 to Matsuoka. The Examiner rejected claims 17-20 under 35 U.S.C. § 103(a) as being unpatentable over Clavel in view of Latzen and U.S. patent 5,845,540 to Rosheim.

Clavel does not suggest the present invention as recited in newly presented independent claim 21, since, among other things, Clavel does not suggest a ball and socket joint that includes a socket that includes a space about one-half of the ball or less. Clavel also does not suggest a housing that includes friction increasing grooves extending in a longitudinal direction of a surface of the housing and that engage and deform a bearing member inserted therein so as to increase friction between the bearing member and the housing and rotationally immobilize the at least one bearing member.

Contrary to the Examiner's suggestion, because Clavel does not disclose how the ball is supported and retained in the socket does not imply "that the particular construction of the ball

and socket joint is not critical to the performance of the robot and that any type of ball and socket joint could be used." There are a number of reasons that the patent does not discuss the particular joint construction. One is that the patent is related to other aspects of the robot system. In fact, Clavel suggests a conventional ball and socket joint. A reference must teach the invention or it is not a valid reference. The Examiner reads too much into silence of Clavel. Therefore, Clavel does not suggest the joint system of the present invention as recited in newly presented independent claim 21.

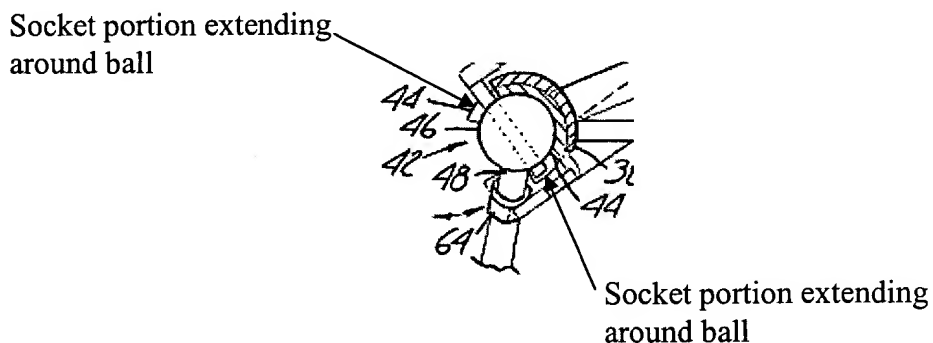
The combination of Clavel and Latzen does not suggest the present invention as recited in newly presented independent claim 21 since, among other things, Latzen does not overcome the above-described deficiencies of Clavel. For example, Latzen does not suggest a housing that includes grooves. Rather, Latzen suggests a shell ring that includes a knurled rim. Rather than facilitating retention of a bearing member, Latzen suggests that the knurled rim accommodates eccentricity. As such, the knurled rim suggested by Latzen would impact differentially upon the eccentric housing to accommodate the eccentricity. Additionally, Latzen does not suggest that the housing is deformed by the rim. On the other hand, grooves of the present invention engage and deform the side surface of the bearing member.

The combination of Clavel, Latzen and Matsuoka does not suggest the present invention as recited in newly presented independent claim 21 since, among other things, Matsuoka does not overcome the above-discussed deficiencies of Clavel and Latzen. The Examiner only cited Matsuoka as suggesting a polymer bearing. Matsuoka does not suggest a housing that includes grooves, or a ball and socket joint that includes a socket that has a space about one-half of the

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ball or less. Therefore, the combination of Clavel, Latzen and Matsuoka does not suggest the present invention as recited in newly presented independent claims 21-37.

The combination of Clavel, Latzen and Rosheim does not suggest the present invention since as recited in newly presented independent claim 21, among other things, Rosheim does not overcome the above-discussed deficiencies of Clavel or Latzen. For example, Rosheim does not suggest a socket of a ball and socket joint that includes a space that is about one-half of the ball. Rather, Rosheim suggests a socket 44 identified by the examiner and shown in Fig. 3 that includes portions that extend down around the ball and therefore extend about the ball more than one half of a sphere, and as reproduced below.



The extent that the socket extends about the ball facilitates rapid pivotal movement of the robot linkage relative to the socket. Also, the shape of the socket permits the robot assembly to be held together by a spring biased connection, which facilitates removal and replacement of the bearing element from the housing by a simple removal of the spring force and disconnection of the ball and socket joint. The combination of Clavel, Latzen and Rosheim does not suggest such a socket and, therefore, the combination does not suggest the present invention as recited in newly presented claims 21-37.

In view of the above, the references relied upon in the office action, whether considered alone or in combination, do not suggest patentable features of the present invention. Therefore, the references relied upon in the office action, whether considered alone or in combination, do not make the present invention obvious. Accordingly, Applicants respectfully request withdrawal of the rejections based upon the cited references.

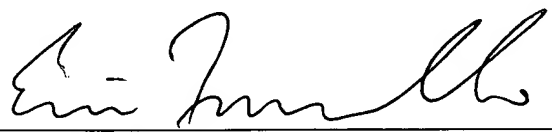
In conclusion, Applicants respectfully request favorable reconsideration of this case and early issuance of the Notice of Allowance.

If an interview would advance the prosecution of this case, Applicants urge the Examiner to contact the undersigned at the telephone number listed below.

The undersigned authorizes the Commissioner to charge fee insufficiency and credit overpayment associated with this communication to Deposit Account No. 22-0261.

Respectfully submitted,

Date: 2/12/05


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